

9 September 1971

MEMORANDUM FOR: [REDACTED]

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SUBJECT : Notes on the ARGO Committee Meeting
of 8 September 1971

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1. At [REDACTED] request, Dr. Quarles, Scientific Adviser to the Army's Chief of Engineers, introduced the 60-minute briefing given by Mr. Shelkin, Chief of the Terrestrial Sciences Division of the Engineer Topographic Laboratories (ETL) of the TOPOCOM. Dr. Quarles stated that the briefing would illustrate the wealth of information derivable

2. Mr. Shelkin talked about the relationships between natural terrain conditions, cultural man-made features, and the analysis of this information for military purposes.

He also talked about the mosaic constructed from photography of southern Indiana and the way in which terrain and environmental distributions were plotted without use of collateral information. He also mentioned the estimate made of the quantity of cut and fill that would be required to construct interstate highway 61, noting that the answer was 89 percent correct when compared with Indiana's Department of Highways figures. (All this is past history, briefing-wise, and so is most of what follows.)

3.

Finally he gave an interesting titbit of a work rate estimate for such analyses,

4. Since there was some discussion of differentiation of surficial material, hydrography, soils, etc., [REDACTED] mentioned that in one of the ARGO Project's early studies

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there was difficulty in differentiating between soil types from B&W imagery. A microdensitometer indicated that tonal differences did, in fact, exist. The NPIC people then reprocessed the film, enhancing contrasts in tone, so that the differentiations were clearly apparent.

5. Mr. Shelkin then began another briefing called a Pilot Test Operation for the production of terrain and environmental information of military significance portrayed in graphic form, called Tactical Operational Graphics (TOG). As an example of one of a series entitled Cross Country Movement (CCM), he described by vignettes the build-up of a graphic showing the complex of terrain conditions affecting the speed with which an M-151 Jeep could traverse specified areas. Troops, tanks, other equipment, and ability to dig foxholes and bunkers were also brought into the picture.

6. Mr. Shelkin then briefed on the Army's Project SAND which was an effort to support planning of troop movements in the Mekong Delta area. I believe you were briefed on this during your visit to TOPOCOM Headquarters. Sensors were used from aircraft platforms over the Mekong Delta region during 1968. An analog survey with ground truth over portions of the Mississippi River Delta was conducted in 1969. B&W, color, color infrared, thermal IR, mostly from altitudes of 1,500 to 10,000 feet, SLAR from 2,000 and 2,500 foot altitudes, and an eight-channel scanner were the sensors used. The imagery in the visible area was evaluated as generally good, especially the near-infrared. Thermal IR was of little use. The SLAR was very useful for distinguishing, in a broad way, some essential differences.

7. Dr. Quarles ended the briefings by stating that the men in the regional civil works district offices of the Corps of Engineers have a hard time accepting information derived from imagery when given them without attribution. He said more billets were needed. He estimated that not more than 50 billets now exist on the civil works side. The only facilities for using material are in the Washington area and a small unit at Providence, Rhode Island.

8. Bill Davis of NOAA described, in a rough way, what NOAA intends to do with the National Disaster Center. He believed that General Lincoln, Director of OEP, requested that NOAA take over this Center, as envisaged in the Task Group's report, in a letter signed on 7 September 1971. The Center will be manned 24 hours a day in advance of any knowledge of an impending disaster. There will be interest in pre- and post-disaster coverage and of snow accumulation prior to potential floods. There will be close coordination with OEP and the Air Force. OEP already has an arrangement with the Air Force. Jack Martin noted the OST, OMB, and others had addressed the problem of funding.

9. As an aside, Dr. Quarles mentioned that Jack Jarman of the Civil Works Program had been given responsibility for developing a remote sensing program using data to be collected by ERTS and SKYLAB.

25X1A 10. Finally, [REDACTED] brought up the question of civil agencies' requirements. The representatives from the Corps of Engineers, from Interior, from Agriculture, from AID, from NOAA, and from OEP very briefly described their needs in time-honored fashion and promised to turn in memoranda. In fact, two representatives had their memos in hand. The NASA representative did not expect to have requirements. Since there was a bit of chatter about other collection systems, I felt obliged to remind Bill that his original request was for only those requirements that could most effectively be met. He and Jack Martin agreed and recognized that Jack's office would have to analyze the memoranda to be submitted and boil them down into a single paper appropriate for submittal to COMIREX, probably sometime in December 1971.